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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/540,792	06/27/2005	Dominique Brunel	FR020145US	9271
25235 7590 08/27/2009 HOGAN & HARTSON LLP ONE TABOR CENTER, SUITE 1500 1200 SEVENTEENTH ST DENVER, CO 80202				
EXAMINER				
HA, DAC V				
ART UNIT		PAPER NUMBER		
2611				
NOTIFICATION DATE		DELIVERY MODE		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentcolorado@hhlaw.com

Office Action Summary

Application No.

10/540,792

Applicant(s)

BRUNEL ET AL.

Examiner

Dac V. Ha

Art Unit

2611

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 June 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 8-12 is/are rejected.
- 7) ☒ Claim(s) 6-7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/CDC)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED ACTION

1. This is in response to the amendment filed on 06/02/09.

Response to Arguments

2. Applicant's arguments, related to art rejection, filed 06/02/09 have been fully considered but they are not persuasive.

In the REMARKS, pages 6-7, related to claims 10 and 11, applicants have argued "... In particular, as Shi et al. does not disclose "dispredding" as admitted by the Examiner, it is impossible to know if the correct chip partitioning as claimed has been achieved."

However, Shi relates to multiple-mode receiver, which can operate in a TDMA, CDMA, and an AMPS system (col. 3, lines 35-39). Even though Shi does not go into detail, i.e. in case of a CDMA system, of the processing of the received signal to yield a useful information, a person of ordinary skill in the art would have understood that in a CDMA system, the signal is spread over a wide bandwidth and transmitted to the receiver. Within the receiver chain at the receiving side, the received signal must be "despread" using the same spreading code that is utilized for spreading the signal in order to obtain the original signal. The incorporation of Azenkot into Shi was to show that such a "despredding" step would have been standard process in the receiver of a CDMA system and would have been easily realized by one skilled in the art. Further, even though it is desired to have all functional sub-circuits of a receiver implemented in a single chip, however, it is not optimal since there is interference between those sub-circuits. Therefore, the partitioning as that suggested by Pau (i.e. the RF front end in

one chip and baseband processing is in one chip) would overcome the interference issue. Thus, one of ordinary skill in the art at the time of the invention would have been motivated to incorporate the chip partitioning taught by Pau into Shi for at least, reducing interference.

In regarding to claim 1, applicants have argued "Pau is characterized by ... chips as claimed." However, as indicated in the following rejection, when Pau is incorporated into Shi, the portion prior to element 68 of Shi resides in one chip and portion after element 68 resides in one chip. Therefore, as indicated above, when Shi operates in a CDMA system, the "despreading" would reside in one chip, while the "spreading" (occurring at element 46) would reside in separate chip. Thus, it is believed that the combination of Shi, Azenkot and Pau meets all limitations of claim 1. For claims 2-5, 8, 9, please refer to the response of claim 1 since applicants have relied on claim 1 for reasoning.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 10-11, 1, 2, 4, 5, 8, 9, 12** are rejected under 35 U.S.C. 103(a) as being unpatentable over Shi et al. (US 6,332,083) in view of Azenkot et al. (US 6,791,995) (hereafter Azenkot) and Pau (US 6,735,426).

Re claim 10, Shi discloses "spreading and down-converting the received signal to baseband, rejecting the DC offsets on the received signal" in Fig. 2, elements 38-68; col. 7, lines 14-51; col. 11, lines 29-30; wherein the multiplication of signal 62 with digital sequence on line 66 in Fig. 2 teaches the claimed "spreading"; further Shi also implies that the signal 68 after down-conversion from IF is baseband signal (col. 2, lines 59-60).

Shi differs from the claimed invention in that Shi does not disclose "dispredding the spread signal"; "a single RF chip" and "a single baseband chip".

In the same filed of endeavor, Azenkot discloses a shared digital back end that performs dispredding in col. 15, lines 13-19; col. 25, lines 21-28.

Both Shi and Azenkot direct to multi-mode receiver for accommodating different communication system, including CDMA. Even though Shi does not explicitly disclose despredding the signal, a person of ordinary skill in the art would have easily realized that there would have been a depredading step in the receiving chain. Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to substitute the shared digital backend, taught by Azenkot, in place of the shared element 78 of Shi and a predictable result would have been expected.

Pau, also in same field of endeavor, discloses transceiver for where most of its components can be implemented on the same integrated circuit (IC), except for some components of the baseband circuit in col. 2, lines 3-5; col. 6, lines 34-52. Thus, the transceiver of Pau can be implemented with two chips.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate the teaching of integrated all transceiver

components onto, i.e. two IC, taught by Pau, into the aforementioned combination to reduce interference between circuitries.

Re claim 11, Shi further implies the teaching of "producing a spread spectrum oscillator and a spreading sequence in order to expand the bandwidth of the received signal" in Fig. 2, elements 38-68; col. 6, line 44 to col. 7, line 22; wherein the mixing of the received signal with local oscillator signal at element 46 and digital sequence at element 64 teaches "expand the bandwidth" as a result.

Re claim 1, see method claim 10 for corresponding claimed subject matter.

Re claim 2, Shi further implies the teaching of "produce a spread spectrum oscillator and a spreading sequence, in order to expand the bandwidth of the received signal" in Fig. 2, elements 38-68; col. 6, line 44 to col. 7, line 22; wherein the mixing of the received signal with local oscillator signal at element 46 and digital sequence at element 64 teaches "expand the bandwidth" as a result.

Re claim 4, Shi further discloses "the channel filtering section is common for all the modes" in Fig. 2, elements 38-68; col. 7, lines 14-27; where all received signals are subjected to the same "channel filtering".

Re claim 5, the combination of Shi, Azenkot and Pau further teach the claimed subject matter "a block of low-noise-amplifier and associated mixers of each mode" in Pau, Fig. 5, elements 2402, 2404; 2602 and 2606; 2802 and 2806; col. 6, lines 4-24; and "unique first rejection means for rejecting DC offsets on a spread received signal for any mode" in Shi, Fig. 2, elements 38-68; col. 7, lines 14-26; wherein as indicated above, all received signals are subjected to "spreading" and DC-offset elimination.

Re claim 8, the combination of Shi, Azenkot and Pau discloses all claimed subject matter in claim 8, as stated above, except for "wherein the despreading means comprise: a single multiplier, and a single correlator with integration and dump means". However, method and circuit for despreading is rather well-known in the art utilizing a correlator or match filter. Basic construction and operation of correlator is also well-known. Therefore, the examiner would like to take an official notice for claimed subject matter "wherein the despreading means comprise: a single multiplier, and a single correlator with integration and dump means". (Further, for reference purpose only and not relied on for the rejection, please correlator 108; paragraph 0055 of Cranford, JR. et al. - US 2004/0114670 as an example).

Re claim 9, the combination of Shi, Azenkot and Pau discloses all claimed subject matter in claim 9, as stated above, except for "synchronization means for synchronizing a spread signal with a corresponding despreading sequence". That is, the aforementioned combination does not teach synchronization in the receiver since it is not the objective of its invention. However, as would be apparent to one skilled in the art, synchronization is an important step that must be performed at the receiver for correctly detecting received signal. Particularly, for a CDMA system, synchronization is achieved by matching the spread signal with a code sequence locally generated at the receiver. Such technique is well-known in the art and the examiner would like to take an official notice for claimed subject matter "synchronization means for synchronizing a spread signal with a corresponding despreading sequence". However, for reference only

and not relied on for the rejection of this claim, please see O - US 6,061,338, col. 1, lines 26-36 as an example).

Re claim 12, Shi further discloses "A mobile phone comprising a receiver as claimed in claim 1" in col. 6, lines 23-24.

5. **Claim 3** is rejected under 35 U.S.C. 103(a) as being unpatentable over Shi, Azenkot and Pau as applied to claim 1 above, and further in view of Tirola et al. (US 6,529,545) (hereafter Tirola).

Re claim 3, the combination of Shi, Azenkot and Pau discloses all claimed subject matter in claim 3, as stated above, except for "wherein the spreading section further comprise unique rejection means for all the modes for suppressing the adjacent carrier frequencies of the associated received signals".

Tirola discloses elimination of adjacent carrier frequencies in col. 15, lines 14-34.

Because the nature of communication system like CDMA system, there would have been interference caused by adjacent carrier frequencies in the received signal. Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate the step for eliminating adjacent carrier frequencies, taught by Tirola, into the aforementioned combination for more accurately detecting the received signal and predictable result would have been expected.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Vishakhadatta et al. (US 7,158,574)

Kerth et al. (US 6,804,497)

Behrens et al. (US 6,970,717)

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dac V. Ha whose telephone number is 571-272-3040. The examiner can normally be reached on 4/4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Payne can be reached on 571-272-3024. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dac V. Ha/
Primary Examiner, Art Unit 2611